General

Title

Availability of services: the number of dental providers who have provided any dental procedure to at least one child, per 1,000 eligible children.

Source(s)

Quality Measurement, Evaluation, Testing, Review and Implementation Consortium (Q-METRIC). Basic measure information: access to dental care for children. Ann Arbor (MI): Quality Measurement, Evaluation, Testing, Review, and Implementation Consortium (Q-METRIC); 2015 Dec. 33 p.

Measure Domain

Primary Measure Domain

Related Health Care Delivery Measures: Use of Services

Secondary Measure Domain

Related Health Care Delivery Measure: User-enrollee Health State

Brief Abstract

Description

This measure is used to assess the number of dental providers who have provided any dental procedures to at least one child, per 1,000 eligible children.

This rate will be expressed in terms of 1,000 eligible children (number of dental providers/1,000 enrolled children), where the eligible population includes children younger than 18 years of age at the end of the measurement year, who have been enrolled in a Medicaid program or health plan that includes dental care for at least one 90-day period (or 3 consecutive months) within the measurement year. Dental providers are identified by specific taxonomy codes and dental procedures by procedure codes.

Rationale

Oral health is an important, but often understated, component of an individual's overall health, for children as well as adults. In the United States, data for 2005 to 2008 from the National Health and

Nutrition Examination Survey (NHANES) indicated that 20.4% of children aged 5 to 11 and 13.3% of children aged 12 to 19 years old had untreated dental caries (tooth decay or cavities). Furthermore, 38.7% of children aged 5 to 11 and 52.0% of children aged 12 to 19 had undergone dental restoration of some type(Dye, Li, & Beltran-Aguilar, 2012).

If left untreated, dental disease can cause major problems, including significant pain, school absences, infections, and even death (Centers for Medicare and Medicaid Services [CMS], 2011). In a 2000 report, the Surgeon General estimated the effect on missed school time to be quite significant, at 51 million school hours lost to dental disease (CMS, 2009).

Recommended schedules for both starting and maintaining regular dental visits vary, but the general recommendation is to begin visits around 1 to 2 years of age (or at first tooth eruption). For example, the American Academy of Pediatric Dentistry recommends beginning by age 1 at the latest, with services including "at a minimum, relief of pain and infections, restoration of teeth, and maintenance of dental health" (CMS, 2009). Despite these recommendations, many children fail to get annual dental services of any kind. An estimate from 2004 data suggests that less than half of children (49.6%) visited a dentist in the previous year; this is a slight improvement from 1997, when it was 45.7% (Wall & Brown, 2008). More recent evidence suggests that rates of dental visits have not improved. A recent update to the Healthy People 2020 goals notes that "the indicator for dental visits is losing ground," though this indicator includes people of all ages over 2 (Koh, Blakey, & Roper, 2014).

Many factors can contribute to a child's failure to obtain a dental visit in a given year, including general availability of dental providers and the availability of providers who will accept the child's payment source. A recent U.S. Government Accountability Office (GAO) (2010) report highlights the geographic disparities in access to dental providers: 4,377 areas in the United States have a shortage of dental health professionals; 7,008 dentists would be needed to fill the gap. Moreover, the reluctance of many dentists to accept Medicaid-enrolled children has been demonstrated in numerous studies (Damiano et al., 1990; Eklund, Pittman, & Clark, 2003; Iben, Kanellis, & Warren, 2000; Mayer et al., 2000; Milgrom & Riedy, 1998; Nainar & Tinanoff, 1997; Shulman et al., 2001; Venzie & Vann, 1993). Reasons cited include low reimbursement rates, excessive paperwork, late or frequently denied reimbursement, and high rates of missed appointments. As a result, the availability of dental providers for Medicaid-enrolled children is widely viewed as inadequate. This is borne out by data indicating that children on Medicaid are less likely to have had a dental visit in the previous year compared with children with private insurance (GAO, 2008). Similarly, children with special health care needs—many of whom are enrolled in Medicaid—are less likely to see a dentist compared with children without any special health care needs (Kane et al., 2008).

Evidence for Rationale

Centers for Medicare and Medicaid Services (CMS). 2008 national dental summary. Atlanta (GA): Centers for Medicare and Medicaid Services (CMS); 2009 Jan. 54 p.

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Damiano PC, Brown ER, Johnson JD, Scheetz JP. Factors affecting dentist participation in a state Medicaid program. J Dent Educ. 1990 Nov;54(11):638-43. PubMed

Dye BA, Li X, Beltran-Aguilar ED. Selected oral health indicators in the United States, 2005-2008. NCHS Data Brief. 2012 May;(96):1-8. PubMed

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Koh HK, Blakey CR, Roper AY. Healthy People 2020: a report card on the health of the nation. JAMA. 2014 Jun 25;311(24):2475-6. PubMed

Mayer ML, Stearns SC, Norton EC, Rozier RG. The effects of Medicaid expansions and reimbursement increases on dentists' participation. Inquiry. 2000 Spring;37(1):33-44.

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United States Government Accountability Office (GAO). Report to Congressional committees: oral health: efforts under way to improve childrenâ€™s access to dental services, but sustained attention needed to address ongoing concerns. Washington (DC): United States Government Accountability Office (GAO); 2010. 83 p.

United States Government Accountability Office (GAO). Report to Congressional requesters: Medicaid: extent of dental disease in children has not decreased, and millions are estimated to have untreated tooth decay. Washington (DC): United States Government Accountability Office (GAO); 2008. 46 p.

Venezie RD, Vann WF. Pediatric dentists' participation in the North Carolina Medicaid program. Pediatr Dent. 1993 May-Jun;15(3):175-81. PubMed

Wall TP, Brown LJ. Public dental expenditures and dental visits among children in the U.S., 1996-2004. Public Health Rep. 2008 Sep-Oct;123(5):636-45. PubMed

Primary Health Components

Access to dental care; children; adolescents

Denominator Description

The eligible population for the denominator is the number of children younger than 18 years on December 31 of the measurement year who have at least one enrollment period of 90 days (or 3 consecutive months) within the measurement year in a health plan that includes dental care. This denominator is divided by 1,000 to calculate the rate per 1,000 eligible children.

Numerator Description

The number of dental providers who have provided any dental procedure to at least one enrolled child (see the related "Numerator Inclusions/Exclusions" field)

Evidence Supporting the Measure

Type of Evidence Supporting the Criterion of Quality for the Measure

A formal consensus procedure, involving experts in relevant clinical, methodological, public health and organizational sciences

One or more research studies published in a National Library of Medicine (NLM) indexed, peer-reviewed journal

Additional Information Supporting Need for the Measure

Unspecified

Extent of Measure Testing

The Quality Measurement, Evaluation, Testing, Review, and Implementation Consortium (Q-METRIC) used two methods to test the *reliability* of the measure. Replication of the measure calculation process demonstrated excellent reliability, with minor variance due to the dynamic nature of health administrative data. Comparison of the taxonomy-based provider identification data sources showed excellent reliability, with over 99% of dental providers identified through the National Plan and Provider Enumeration System (NPPES) registry, to which all Medicaid programs have access. *Validity* testing was performed to assess the impact of excluding organizational National Provider Identifiers (NPIs) from the measure calculation. Given the documented evidence that including the organizational NPIs would result in double-counting of a substantial number of dental providers, the overall validity of the measure is very good regarding the effect of excluding organizational NPIs.

Refer to the original measure documentation for additional testing information.

Evidence for Extent of Measure Testing

Quality Measurement, Evaluation, Testing, Review and Implementation Consortium (Q-METRIC). Basic measure information: access to dental care for children. Ann Arbor (MI): Quality Measurement, Evaluation, Testing, Review, and Implementation Consortium (Q-METRIC); 2015 Dec. 33 p.

State of Use of the Measure

State of Use

Current routine use

Current Use

not defined yet

Application of the Measure in its Current Use

Measurement Setting

Ambulatory/Office-based Care

Hospital Outpatient

Managed Care Plans

Professionals Involved in Delivery of Health Services

not defined yet

Least Aggregated Level of Services Delivery Addressed

Single Health Care Delivery or Public Health Organizations

Statement of Acceptable Minimum Sample Size

Does not apply to this measure

Target Population Age

Age less than or equal to 18 years

Target Population Gender

Either male or female

National Strategy for Quality Improvement in Health Care

National Quality Strategy Priority

Institute of Medicine (IOM) National Health Care Quality Report Categories

IOM Care Need

Not within an IOM Care Need

IOM Domain

Not within an IOM Domain

Data Collection for the Measure

Case Finding Period

The measurement year

Denominator Sampling Frame

Enrollees or beneficiaries

Denominator (Index) Event or Characteristic

Patient/Individual (Consumer) Characteristic

Denominator Time Window

not defined yet

Denominator Inclusions/Exclusions

Inclusions
The eligible population for the denominator is the number of children younger than 18 years on December 31 of the measurement year who have at least one enrollment period of 90 days (or 3 consecutive months) within the measurement year in a health plan that includes dental care. This denominator is divided by 1,000 to calculate the rate per 1,000 eligible children.

Exclusions
None

Exclusions/Exceptions

not defined yet

Numerator Inclusions/Exclusions

Inclusions
The number of dental providers who have provided any dental procedure to at least one enrolled child

Note:

> Dental providers are to be identified using internal coding systems where available. Otherwise, taxonomy codes may be used to link to provider National Provider Identifier (NPI). For example, the National Plan and Provider Enumeration System (NPPES) registry may be used to identify specialists using the rendering NPI or billing NPI. Individual dental providers are to be included as eligible providers. See Table 1 in the original measure documentation for taxonomy codes by provider.
> For this measure, a dental procedure is defined as any claim with a procedure code in the range of D0100 to D9999.

Exclusions

- NPIs representing organizations and clinics
- Dental hygienists
- NPIs representing professionals who are not dental providers (e.g., physicians, surgeons)

Numerator Search Strategy

Fixed time period or point in time

Data Source

Administrative clinical data

Type of Health State

Proxy for Health State

Instruments Used and/or Associated with the Measure

Unspecified

Computation of the Measure

Measure Specifies Disaggregation

Does not apply to this measure

Scoring

Rate/Proportion

Interpretation of Score

Does not apply to this measure (i.e., there is no pre-defined preference for the measure score)

Allowance for Patient or Population Factors

not defined yet

Standard of Comparison

not defined yet

Identifying Information

Original Title

Access to dental care for children.

Measure Collection Name

Availability of Specialty Services Measures

Submitter

Quality Measurement, Evaluation, Testing, Review, and Implementation Consortium (Q-METRIC) - Academic Affiliated Research Institute

Developer

Quality Measurement, Evaluation, Testing, Review, and Implementation Consortium (Q-METRIC) - Academic Affiliated Research Institute

Funding Source(s)

This work was funded by the Agency for Healthcare Research and Quality (AHRQ) and the Centers for Medicare & Medicaid Services (CMS) under the Children's Health Insurance Program Reauthorization Act (CHIPRA) Pediatric Quality Measures Program Centers of Excellence grant number U18 HS020516.

Composition of the Group that Developed the Measure

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Financial Disclosures/Other Potential Conflicts of Interest

Unspecified

Adaptation

This measure was not adapted from another source.

Date of Most Current Version in NQMC

2015 Dec

Measure Maintenance

Unspecified

Date of Next Anticipated Revision

Unspecified

Measure Status

This is the current release of the measure.

Measure Availability

Source available from the Quality Measurement, Evaluation, Testing, Review and Implementation Consortium (Q-METRIC) Web site Support documents are also available..

For more information, contact Q-METRIC at 300 North Ingalls Street, Room 6C06, SPC 5456, Ann Arbor, MI 48109-5456; Phone: 734-232-0657; Fax: 734-764-2599.

NQMC Status

This NQMC summary was completed by ECRI Institute on March 7, 2016. The information was verified by the measure developer on April 4, 2016.

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Production

Source(s)

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